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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/769,376	01/26/2001	Nobuyoshi Yagi	Q62053	5759

7590

04/29/2003

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EXAMINER

DICUS, TAMRA

ART UNIT

PAPER NUMBER

1774

DATE MAILED: 04/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/769,376

Applicant(s)

YAGI ET AL.

Examiner

Tamra L. Dicus

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1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2-24-03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

The request for continuing examination is acknowledged. The 103 rejection to Owa is withdrawn due to Applicant's arguments.

Claim Objections

Claim 1 is objected to because of the following informalities: The Examiner suggests amending "Ra" to "R_a" and adding a comma after the term "roughness" in claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 4, and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by USPN 6,261,664 to Beeson et al.

3. The invention of Beeson is directed to an optical light diffusion multilayered transparent support. At col. 4, lines 59-60, Beeson teaches a uniform (average) thickness of 0.2 to 2 mm, within the claimed range of 100 to 800 micrometers. The photopolymerizable material layer is

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of cured epoxy deposited on a substrate, where the surface roughness (highly modulated surface having smooth bumps) is from 1 to 20 microns, which meets the limitation Ra of 0.8 nm or lower on at least one side. See patented claim 1, Figure 1, col. 4, line 24, and lines 55-68.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 3, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,261,664 to Beeson et al in view of USPN 6,322,860 to Stein et al. and USPN 4419399 to Ichikawa et al.

6. Beeson is relied upon above. Beeson does not teach a cured epoxy resin as a base layer or the transparent hard coat of claims 2 and 3. Stein shows a multilayered structure for use in optical electronic displays. The structure contains a cured epoxy coating layer on a substrate having a surface roughness less than 10 nm (col. 5, lines 60-65). The epoxy coating serves as a base layer for a subsequent coating (col. 6, lines 45-50) to promote adhesion between a plastic substrate and the subsequent coating layer. The thickness of the coating is 0.1 to 25 microns, see col. 6, line 53. Examples 3 and 6 teach further coating the transparent substrate and epoxy coating, further with a transparent ITO film having a thickness of approximately 0.15 microns. Thus it would have been obvious to one of ordinary skill in the art to modify the optical structure of Beeson to further include an epoxy coating and transparent coating. The epoxy coating

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serves as a base layer for a subsequent coating to promote adhesion between a plastic substrate and the subsequent coating layer, transparent ITO coating as taught by Stein at col. 6, lines 45-50 and Examples 3 and 6. The thickness of the ITO coating is approximately 0.15 microns, as in claim 3, which is an optimizable property. Thickness of an optical substrate and coatings thereon effect the light transmission/diffusion and flexibility.

7. Beeson does not teach adding the specific polymers of claim 6, however Ichikawa teaches a transparent conductive film having a glass substrate and epoxy coating for liquid crystal displays. Ichikawa lists the preferable epoxy polymers coated on or penetrated into other polymers for a base film include alicyclic epoxy resins as vinylcyclohexene diepoxide, dicyclopentadiene diepoxide; heterocyclic epoxy resins as triglycidyl isocyanurate and such cycloalkyl epoxy resins as hydrogenated bisphenol A. See col. 6, lines 50-68. Hence it would have been obvious to one of ordinary skill in the art to modify the optical structure of Beeson to further include the known aforementioned epoxy resins for the purpose of treating a liquid crystal sheet as taught by Ichikawa at col. 5, lines 30-40.

Response to Arguments

8. The declaration has been considered and overcomes the rejection to Oka.

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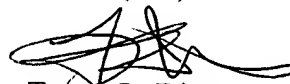
Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USPN 6,103,340 to Kubo et al. teaches a magnetic polymeric recording having Ra of 7 nm or less. USPN 6,074,724 to Knaba et al. teaches a magnetic resinous support having Ra around 2 nm using polyurethane and epoxy resins.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra L. Dicus whose telephone number is (703) 305-3809. The examiner can normally be reached on Monday-Friday, 7:00-4:30 p.m., alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (703) 308-0449. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-8329 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Tamra L. Dicus
Examiner
Art Unit 1774

April 25, 2003

CYNTHIA H. KELLY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

